



Bionano's Optical Genome Mapping Reveals New Insights and Prognostic Capabilities Compared to Traditional Cytogenetics Techniques in Several Leukemia Clinical Research Studies Presented at the ECA

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SAN DIEGO, July 14, 2021 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (Nasdaq: BNGO) today announced optical genome mapping (OGM) reveals new insights and prognostic capabilities compared to traditional cytogenetics techniques in several leukemia clinical research studies presented at the 2021 European Cytogenomics Conference (ECA). Below is a summary of the leukemia presentations at the ECA featuring OGM data generated by the Bionano Saphyr system, delivered online from July 3 - 5, 2021 during this virtual event.

One of the highlights from the conference featured Dr. Elena García Sánchez from the Hospital Infantil Universitario Niño Jesús who presented a comprehensive study showing the value of OGM for diagnosis of pediatric leukemias. In this study, 34 pediatric leukemias (26 ALL and 8 AML) were analyzed by OGM relative to traditional cytogenetics techniques (karyotyping, FISH, and PCR). The results of this study showed 100% concordance relative to these standard techniques and in 60% of these cases new clinically relevant information was revealed. This study is the basis of validation and accreditation of an assay to be used onsite in their lab. The new information that OGM revealed could represent an opportunity for improved treatment options, patient stratification, or medical care. In addition, these findings uncovered novel gene fusion events that are being explored for prognostic applications in cancer management.

Another outstanding talk was delivered by Dr. Anna Puiggros from the Hospital del Mar, on the analysis of genomic complexity in patients with chronic lymphocytic leukemia (CLL) using Bionano's OGM on the Saphyr system. For hematological malignancies classified as CLL, genomic complexity is an important prognostic factor for guiding patient management. In this study, 42 CLL samples were characterized by traditional karyotyping and FISH techniques relative to OGM and a prognostic score for measuring genomic complexity was calculated based on each method. The OGM-based score was able to accurately predict the most severe prognosis associated with high genomic complexity. In 45% of cases, OGM provided additional information, orthogonally confirmed, demonstrating an improvement in diagnostic potential relative to traditional cytogenetics techniques.

In addition, Dr. Catherine Menten, from CHU Liège, presented on the use of OGM to better understand a complex mechanism of KMT2A rearrangement in AML. In this case study, OGM identified the correct genome structure consisting of two inversions and two translocations and confirmed a KMT2A-MLLT10 fusion. The analysis of this AML example illustrates the value of OGM to potentially resolve these types of complex chromosomal aberrations using only one assay. In the context of inherited genetic disease, Romain Nicolle, from the Hôpital Necker-enfants-malades, claimed that "OGM was the only technology allowing the full characterization of these complex chromosomal rearrangements involving segmental duplications and to propose a mechanism that explains its formation."

"This year, the ECA had an increased number of presentations featuring Bionano's data in leukemia research, which helps reflect increased awareness of the unique benefits of OGM throughout Europe," commented Erik Holmlin, PhD, CEO of Bionano Genomics. "We believe these presentations highlight the core advantages of OGM, using Saphyr, for delivering a superior solution in clinical research for hematological malignancy applications relative to standard techniques."

About Bionano Genomics

Bionano is a genome analysis company providing tools and services based on its Saphyr system to scientists and clinicians conducting genetic research and patient testing, and providing diagnostic testing for those with autism spectrum disorder (ASD) and other neurodevelopmental disabilities through its Lineagen business. Bionano's Saphyr system is a research use only platform for ultra-sensitive and ultra-specific structural variation detection that enables researchers and clinicians to accelerate the search for new diagnostics and therapeutic targets and to streamline the study of changes in chromosomes, which is known as cytogenetics. The Saphyr system is comprised of an instrument, chip consumables, reagents and a suite of data analysis tools. Bionano provides genome analysis services to provide access to data generated by the Saphyr system for researchers who prefer not to adopt the Saphyr system in their labs. Lineagen has been providing genetic testing services to families and their healthcare providers for over nine years and has performed over 65,000 tests for those with neurodevelopmental concerns. For more information, visit www.bionanogenomics.com or www.lineagen.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "will," "expect," "plan," "anticipate," "estimate," "intend" and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) convey uncertainty of future events or outcomes and are intended to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: the significance of Bionano OGM data discussed in this press release, including the potential for such data to lead to improved treatment options, patient stratification, or medical care; Bionano OGM's superiority in genomic analysis in leukemia and hematological malignancy applications as compared to traditional techniques; the benefits of the Saphyr system relative to traditional cytogenetic testing methods; our assessments regarding market opportunities; and the execution of Bionano's strategy. Each of these forward-looking statements involves risks and uncertainties. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include the risks and uncertainties associated with: Indalo Bio's ability to successfully develop assays on the Saphyr system and/or make its technology widely available in Africa; the impact of the COVID-19 pandemic on our business and the global economy; general market conditions; changes in the competitive landscape and the introduction of competitive products; changes in our strategic and commercial plans; our ability to obtain

sufficient financing to fund our strategic plans and commercialization efforts; the ability of medical and research institutions to obtain funding to support adoption or continued use of our technologies; the loss of key members of management and our commercial team; and the risks and uncertainties associated with our business and financial condition in general, including the risks and uncertainties described in our filings with the Securities and Exchange Commission, including, without limitation, our Annual Report on Form 10-K for the year ended December 31, 2020 and in other filings subsequently made by us with the Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made and are based on management's assumptions and estimates as of such date. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of the receipt of new information, the occurrence of future events or otherwise.

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